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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,571	08/20/2001	Brian R. Hoppes	74035.P0006	5747

30163 7590 12/30/2004

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EXAMINER

MEEK, JACOB M

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,571

Applicant(s)

HOPPES, BRIAN R.

Examiner

Jacob Meek

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 – 5, 7, 8, 12 – 15, and 19 – 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kingdon (US Patent 5,933,468).

With regard to claim 1, Kingdon teaches a method of synchronization of an in-band signal (where TRAU is defined as part of the inband signaling associated with TFO per ETSI) comprising collecting inband signaling information (see Figure 3, and column 1, line 66 – column 2, line 16), synchronizing the signaling based on collected information (see Figure 1, and column 1, lines 34 – 47), and continuing to collect signaling information while system is in synch for resynchronization if synchronization is lost (see column 2, lines 48 – 63 where this is interpreted as equivalent functionality).

With regard to claim 2, Kingdon teaches that in-band signaling information is comprised of bits taken from samples of in-band signaling channel (see figure 1, where this is a representation of the in-band signaling scheme and column 1, lines 34 - 48).

With regard to claim 3, Kingdom teaches that samples grids (bytes, words) are filled with samples from in-band signaling channel (see figure 1 and column 1, lines 34 – 47).

With regard to claim 4, Kingdon teaches the samples grids are maintained during the time the system is synchronized (column 4, lines 4 – 23).

With regard to claim 5, Kingdon teaches the collection of data to generate inband signaling system messages (where TRAU messages are taught by GSM to be inband signaling, see Figure 4, and column 3 lines 38 -58).

With regard to claim 7, Kingdon teaches inband signaling is part of GSM (see column 1, lines 34 – 35).

With regard to claim 8, Kingdon teaches inband signaling is part of GSM, which is defined as a TDMA based system by industry standards and is inherent for GSM based systems.

With regard to claim 12, Kingdon teaches a method of facilitating TFO operation (where Kingdon's disclosure of TRAU function and applicant's citing of ETSI TS 101 504 describe TFO as an in-band signaling channel) comprising the collection of bit samples of the signaling channel (where TRAU function is understood to be provided by robbed bits (LSB) disclosed in ETSI), filling M sample grids (see figure 4, where this is interpreted as being a sample grid), determining if any of M sample grids matches a reference bit pattern to detect presence of in-band signaling channel (see column 1, lines 24 – 47), synchronizing the two devices using detected signaling channel (see column 1, lines 8 – 11), continuing to fill sample grid while devices are synchronized to maintain sample grids to facilitate resynchronization if synchronization is lost (see column 2, lines 34 – 63).

With regard to claim 13, Kingdon shows a grid, which is comprised of 20 rows by 4 columns of which 16 would be a subset (see Figure 4 and column 4, lines 35 – 49).

With regard to claim 14, Kingdon teaches inband signaling is part of GSM (see column 1, lines 34 – 35).

With regard to claim 15, Kingdon teaches inband signaling is part of GSM, which is defined as a TDMA based system by industry standards and is inherent for GSM based systems.

With regard to claim 19, Kingdon teaches that an inband synchronization system comprising a storage device that maintains sample grids (see Figure 4, and column 3, line 25 – 37 where the DSP cited would require storage for the processing algorithm), where samples are collected from a signaling channel (see column 1, lines 34 – 47), a detector for detection of inband signaling based on samples (see Figure 3, 112, 114, Figure 4, and column 4, lines 4 – 12) wherein detected channel is used to synchronize device to facilitate TFO operation (see column 1, lines 8 – 11) and collection of samples continues to facilitate resynchronization (see column 2, lines 48 - 63).

With regard to claim 20, Kingdon teaches a method of synchronization techniques for synchronizing one or more devices (see column 1, lines 13 – 17), applying the technique to synchronize one or more devices (see column 1, lines 18 – 48), continuing to apply the synchronization technique while devices are synchronized to facilitate rapid resynchronization (see column 2, lines 48 - 63).

With regard to claim 21, Kingdon teaches the collection of bits to provide an inband signaling channel (see figure 1, and column 1, lines 33 – 47 where TRAU functionality is taught as an in-band signaling channel by GSM standards).

With regard to claim 22, Kingdon teaches the continued collection of bits while synchronized (see column 2, lines 34 – 63).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingdon in view of Lehtimäki (US Patent 6,125,120).

With regard to claim 6, Kingdon is silent with respect to a second inband message channel. Lehtimäki teaches a method of receiving multiple inband channels (see figure 8, 81) via the TRAU channel. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Kingdon's synchronization technique with Lehtimäki's communication technique to produce a device with increased channel capacity to allow for greater bandwidth efficiency (see '120, column 1, lines 44 -65).

With regard to claim 18, Kingdon is silent with respect to a second inband message channel. Lehtimäki teaches a method of receiving multiple inband channels (see figure 8, 81) via the TRAU channel. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Kingdon's synchronization technique with Lehtimäki's communication technique to produce a device with increased channel capacity to allow for greater bandwidth efficiency (see '120, column 1, lines 44 -65).

3. Claims 9, 10, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingdon in view of Meyer et al (US Patent 6,577,645).

With regard to claim 9, Kingdon is silent with respect to an inband signaling being part of a CDMA speech network. Meyer teaches a method of inband signaling (see column 2, lines 45 – 51 where this is interpreted as equivalent to TFO functionality) in CDMA (see column 7, lines 10 – 16). It would have been obvious to one of ordinary skill in the art at the time of invention to combine Kingdon's synchronization technique with Meyer's communication technique to

produce a device that would provide a more flexible and bandwidth efficient system (see '645, column 1, lines 17 - 23).

With regard to claim 10, Kingdon is silent with respect to an inband signaling being part of a W-CDMA speech network. Meyer teaches a method of inband signaling (see column 2, lines 45 – 51 where this is interpreted as equivalent to TFO functionality) in W-CDMA (see column 7, lines 10 – 16). It would have been obvious to one of ordinary skill in the art at the time of invention to combine Kingdon's synchronization technique with Meyer's communication technique to produce a device that would provide a more flexible and bandwidth efficient system (see '645, column 1, lines 17 - 23).

With regard to claim 16, Kingdon is silent with respect to an inband signaling being part of a CDMA speech network. Meyer teaches a method of inband signaling (see column 2, lines 45 – 51 where this is interpreted as equivalent to TFO functionality) in CDMA (see column 7, lines 10 – 16). It would have been obvious to one of ordinary skill in the art at the time of invention to combine Kingdon's synchronization technique with Meyer's communication technique to produce a device that would provide a more flexible and bandwidth efficient system (see '645, column 1, lines 17 - 23).

With regard to claim 17, Kingdon is silent with respect to an inband signaling being part of a W-CDMA speech network. Meyer teaches a method of inband signaling (see column 2, lines 45 – 51 where this is interpreted as equivalent to TFO functionality) in W-CDMA (see column 7, lines 10 – 16). It would have been obvious to one of ordinary skill in the art at the time of invention to combine Kingdon's synchronization technique with Meyer's communication technique to produce a device that would provide a more flexible and bandwidth efficient system (see '645, column 1, lines 17 - 23).

Other Cited Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suvanen (US Patent 6,320,88) and Navaro et al (US Patent 6,108,560) discuss TFO synchronization that appear germane to invention. Sabel (US Patent 5,539,751) and Sutphin et al (US Patent 4,763,33) discuss techniques for acquisition of frame synchronization that appear germane to invention.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM 


JAYANTI PATEL
SUPERVISORY PATENT EXAMINER